

The Long View

Many CCR Investigators see patients regularly as part of their clinical research programs. As Steven Rosenberg, M.D., Ph.D., points out in “Adopting Bodily Defenses to Cure Cancer,” in this issue of *CCR connections*, our patients are often here because they have no other options and their prognosis is far from good. So the urgency to translate research into improved patient care is always a priority.

As scientists, however, we also understand that strong research foundations are required to truly break new therapeutic ground. As a part of the NCI Intramural Research Program, our mission includes the goal of mapping uncharted scientific territories and developing important research questions that may require extended time for exploration.

Many of the investigators featured in this magazine, including Rosenberg, have been doggedly pursuing lines of research that have garnered increasing attention from the scientific community. As we learn in “Precision in Targeting with Anti-Mesothelin Therapies,” Raffit Hassan, M.D., has built a series of clinical trials upon the work that he and Ira Pastan, M.D., have done to create a new class of immunotoxins.

Meanwhile, Sanford Markowitz, M.D., Ph.D., took what he learned about solid tumors during his NCI Fellowship many years ago to Case Western University; there, he built a nationally recognized program to study the fundamental mechanisms of colon cancer, which he describes in “Gut Check: A Career in Colon Cancer Research.”

Shioko Kimura, Ph.D., began studying the molecules that regulate thyroid hormone production in the 1990s and discovered a transcriptional master regulator in the lungs, thyroid, and ventral forebrain. As described in “Influence of a Master,” the mouse models she has created to study this developmental system have generated many fruitful collaborations and new directions for her own cancer research.

Kimura is not alone in sharing the fruits of her labors; CCR investigators have invested in resources from cells to tissue microarrays and databases, some of which are highlighted in “Tools of the Trade.” For instance, Michael Gottesman’s multidrug-resistant cell lines are used throughout the world for cancer research and drug development.

Bruce Shapiro, Ph.D., remembers a time when RNA was considered rather a boring molecule. Now, as recounted in “RNA Rules: The Many Faces and Functions of Ribonucleic Acids,” he and his CCR colleagues who are studying RNA biology are part of an NCI-wide RNA initiative to share resources and knowledge in this fast moving field. Shapiro is using his carefully cultivated understanding of the basic structural features of RNA to create entirely new classes of nanoparticles as therapeutics.

Javed Khan, M.D., and his Clinical Fellow, Jack Shern, M.D., have taken on the challenge of providing a complete genomic survey of rare pediatric cancers, results from which were recently published in *Cancer*



(Photo: B. Branson)

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(Photo: R. Baer)

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Discovery and highlighted here in “Seeing the Forest and the Trees.” They hope that this work will lead to new precision cancer therapies. As Shern concludes in this issue’s “In Conversation” article, the only way to make real progress in science is to be persistent.

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